NOAA Research in Vermont

VT-1 (Statewide)

Air Resources Laboratory
Meteorological and Air Quality Models

The Air Resources Laboratory (ARL) is working with the Vermont Department of Environmental Conservation (DEC) to determine the sources of atmospheric pollutants and their ecological impacts in Vermont. ARL is leveraging NOAA resources with $25,000 from the State of Vermont by developing high-resolution meteorological and air quality simulations that incorporate the complex Vermont topography to help assess the contribution of pollution sources outside the state boundary (e.g., the Ohio Valley and Montreal, Canada). The modeling study will also help identify local ecosystems which may be particularly vulnerable to air pollution. The simulations have been run twice a day at ARL in near real-time since July 1999. The results are then linked to the NOAA transport and dispersion model via the ARL READY web page (www.arl.noaa.gov/ready/amet.html) for further analysis by DEC. For more information please visit http://www.uvm.edu/~ldupigny/sc/trajectory.html

VT-1 (Lake Champlain)

Air Resources Laboratory and Great Lakes Environmental Research Laboratory
Lake Champlain Research

The Lake Champlain research effort is a cooperative venture between the NOAA Air Resources Laboratory (ARL), the Great Lakes Environmental Research Laboratory (GLERL), and the Lake Champlain Research Consortium (LCRC). The funds appropriated for Lake Champlain research (~$150K per year) have been equally divided between GLERL and ARL. ARL cooperates with the LCRC to study the atmospheric transport and deposition of materials to the Lake Champlain Basin. GLERL performs studies of water and sediment transport processes within Lake Champlain. In addition, a small mercury deposition measurement program has been conducted at the Underhill site on the flanks of Mt. Mansfield since late 1992. Through the past several years, measurements of ambient particle and gas concentrations in air, and total mercury samples from the snow pack and from local stream water, have been made. During the past two years, a small project has been established to monitor meteorological conditions on lake Champlain in support of lake pollution deposition research. A mass balance assessment has also been conducted for mercury and nitrate in Lake Champlain in conjunction with several colleges and universities in Vermont and northeastern New York. For more information please visit http://www.arl.noaa.gov or http://www.glerl.noaa.gov

VT-1 (Lake Champlain)

Great Lakes Environmental Research Laboratory
Hydroacoustics in Lake Champlain

A scientist from NOAA's Great Lakes Environmental Research Laboratory, in collaboration with researchers from the University of Vermont, Cornell University, University of Minnesota, west Virginia University, and the Ontario Ministry of Natural Resources is using Lake Champlain as a test site to cross-compare and to calibrate different hydroacoustics systems with applications towards fish assessments. For more information please visit http://www.glerl.noaa.gov

VT-1 (Underhill)

Air Resources Laboratory
Atmospheric Integrated Research Monitoring Network

The AIRMoN, or Atmospheric Integrated Research Monitoring Network, is an array of sampling stations designed to quantify the extent to which changes in emissions affect air quality and deposition. NOAA's Air Resources Laboratory operates two elements in this network, AIRMoN-Wet and AIRMON-Dry. AIRMoN-Wet collects data on the deposition of pollutants that occurs with precipitation. Daily samples of precipitation are collected at ten stations throughout the country and then sent to a single central laboratory for chemical analysis. An AIRMoN-Wet station is located near Underhill. This station is the only one in the network ideally situated to monitor the effluents coming into the United States from the Canadian industrial center of Montreal. Prime users of these data include ecologists, agriculturists, foresters, and power companies affected by Clean Air Act legislation. For more information please visit
http://www.arl.noaa.gov/research/programs/airmon.html

For further information about these and other NOAA programs, please contact NOAA's Office of Legislative Affairs at (202) 482-4981.

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